

Contents of *Aquaculture*, Volume 259

VOL. 259 NOS. 1–4

8 September 2006

Diseases

Presence of the parasite <i>Marteilia</i> sp. in the flat oyster (<i>Ostrea edulis</i> L.) in Greece C. Virvili and P. Angelidis (Thessaloniki, Greece)	1
Depletion of emamectin residues following oral administration to rainbow trout, <i>Oncorhynchus mykiss</i> W.J. Roy (Scotland, UK), N. Gillan (Northern Ireland, UK), L. Crouch (Lafayette, New Jersey, USA), R. Parker (Middlesex, UK), H. Rodger (Galway, Ireland) and R. Endris (Summit, New Jersey, USA)	6
Efficacy of green tea extract on removal of the ectoparasitic flagellate <i>Ichthyobodo necator</i> from chum salmon, <i>Oncorhynchus keta</i> , and masu salmon, <i>O. masou</i> K. Suzuki, N. Misaka and D.K. Sakai (Hokkaido, Japan)	17

Genetics

Genetic evaluation of four strains of <i>Oreochromis shiranus</i> for harvest body weight in a diallel cross A.O. Maluwa (Domasi, Malawi) and B. Gjerde (Ås, Norway)	28
Estimates of the strain additive, maternal and heterosis genetic effects for harvest body weight of an F ₂ generation of <i>Oreochromis shiranus</i> A.O. Maluwa (Domasi, Malawi) and B. Gjerde (Ås, Norway)	38
Genetic parameters and genotype by environment interaction for body weight of <i>Oreochromis shiranus</i> A.O. Maluwa (Domasi, Malawi), B. Gjerde (Ås, Norway) and R.W. Ponzoni (Penang, Malaysia)	47
AFLP linkage map of sea urchin constructed using an interspecific cross between <i>Strongylocentrotus nudus</i> (♀) and <i>S. intermedius</i> (♂) Z. Zhou (Qingdao, Dalian, China), Z. Bao (Qingdao, China), Y. Dong (Dalian, China), S. Wang (Qingdao, China), C. He, W. Liu, L. Wang (Dalian, China) and F. Zhu (Qingdao, China)	56
Genetic variation and genotype by location interaction in body weight, spinal deformity and sexual maturity in Atlantic cod (<i>Gadus morhua</i>) reared at different locations off Norway K. Kolstad (Aas, Norway), I. Thorland, T. Refstie (Sunndalsøra, Norway) and B. Gjerde (Aas, Norway)	66
No evidence for overdominance at the phosphoglucomutase-2 locus in Pacific oysters (<i>Crassostrea gigas</i>) from New Zealand A.R. Wood and J.P.A. Gardner (Wellington, New Zealand)	74
Effects of the "all-fish" growth hormone transgene expression on non-specific immune functions of common carp, <i>Cyprinus carpio</i> L. W.-B. Wang (Hubei Province, Guangdong Province, P.R. China), Y.-P. Wang, W. Hu, A.-H. Li, T.-Z. Cai, Z.-Y. Zhu and J.-G. Wang (Hubei Province, P.R. China)	81
Production of all-male stock by neofemale technology of the Thai strain of freshwater prawn, <i>Macrobrachium rosenbergii</i> W. Rungsin, N. Paankhao and U. Na-Nakorn (Bangkok, Thailand)	88
Genetic variability assessed by microsatellites in cultured populations of the Pacific oyster (<i>Crassostrea gigas</i>) in China Q. Li, H. Yu and R. Yu (Qingdao, China)	95
Genetic parameter estimates for growth-related traits in Oujiang color common carp (<i>Cyprinus carpio</i> var. <i>color</i>) C.-h. Wang, S.-f. Li (Shanghai, China), S.-p. Xiang, J. Wang (Zhejiang, China), Z.-g. Liu (Shanghai, China), Z.-y. Pang, J.-p. Duan and Z.-b. Xu (Zhejiang, China)	103
Evaluation of induced triploid shrimp <i>Penaeus (Fenneropenaeus) chinensis</i> cultured under laboratory conditions J. Xiang, F. Li, C. Zhang, X. Zhang, K. Yu, L. Zhou and C. Wu (Qingdao, PR China)	108

Evaluation of statistical models for genetic analysis of challenge test data on furunculosis resistance in Atlantic salmon (<i>Salmo salar</i>): Prediction of field survival	116
J. Ødegård, I. Olesen, B. Gjerde and G. Klemetsdal (Ås, Norway)	
Effect of dietary restriction during juvenile development on adult performance of Pacific oysters (<i>Crassostrea gigas</i>) S. Evans and C. Langdon (OR, USA)	124
Heritability and genetic correlations of growth and survival in black tiger prawn <i>Penaeus monodon</i> reared in tanks M. Kenway (Townsville, Qld, Australia), M. Macbeth (Brisbane, Qld, Australia), M. Salmon (Townsville, Qld, Australia), C. McPhee (Brisbane, Qld, Australia), J. Benzie (Sydney, NSW, Australia), K. Wilson (Townsville, Qld, Australia) and W. Knibb (Brisbane, Qld, Australia)	138
Heritability estimates for growth in the tropical abalone <i>Haliotis asinina</i> using microsatellites to assign parentage T. Lucas (Brisbane, Woorim QLD, Australia), M. Macbeth, S.M. Degnan (Brisbane QLD, Australia), W. Knibb (Woorim QLD, Australia) and B.M. Degnan (Brisbane QLD, Australia)	146
Husbandry and Management	
An investigation into the occurrence of geosmin responsible for earthy-musty taints in UK farmed rainbow trout, <i>Oncorhynchus mykiss</i> R.F. Robertson (Aberdeen, UK), A. Hammond, K. Jauncey (Stirling, UK), M.C.M. Beveridge (Perthshire, UK) and L.A. Lawton (Aberdeen, UK)	153
The effects of monosex culture and stocking density on survival, growth and yield of redclaw crayfish (<i>Cherax quadricarinatus</i>) in earthen ponds L.J. Rodgers, P.I. Saoud and D.B. Rouse (Auburn, AL, United States)	164
Effects of locally-isolated micro-phytoplankton diets on growth and survival of sea scallop (<i>Placopecten magellanicus</i>) larvae R. Gouda, E. Kenchington (Halifax, Dartmouth, Nova Scotia, Canada), B. Hatcher (Sydney, Nova Scotia, Canada) and B. Vercaemer (Dartmouth, Nova Scotia, Canada)	169
Unequal division of food resources suggests feeding hierarchy of signal crayfish (<i>Pacifastacus leniusculus</i>) juveniles T. Ahvenharju (Evo, Finland) and K. Ruuhonen (Turku, Finland)	181
Larval rearing and weaning of thick lipped grey mullet (<i>Chelon labrosus</i>) in mesocosm with semi-extensive technology I. Ben Khemis, D. Zouiten, R. Besbes and F. Kamoun (Monastir, Tunisia)	190
Invasion of <i>Codium fragile</i> ssp. <i>tomentosoides</i> in northern Chile: A new threat for <i>Gracilaria</i> farming P.E. Neill (Santiago, Chile), O. Alcalde (Chile), S. Faugeron (Santiago, Chile), S.A. Navarrete and J.A. Correa (Santiago, Chile)	202
Growth, faecal production, nitrogenous excretion and energy budget of juvenile cobia (<i>Rachycentron canadum</i>) relative to feed type and ration level L. Sun, H. Chen, L. Huang and Z. Wang (Guangdong, P.R. China)	211
Food sources of the sergestid crustacean, <i>Acetes sibogae</i> , in shrimp ponds F.E. Coman (Cleveland, Queensland, Australia), R.M. Connolly (Queensland, Australia), S.E. Bunn (Nathan Qld, Australia) and N.P. Preston (Cleveland, Australia)	222
The growth and survival of western king prawns, <i>Penaeus latisulcatus</i> Kishinouye, in potassium-fortified inland saline water D.I. Prangnell and R. Fotedar (Bentley, WA, Australia)	234
Effects of incubation temperatures on embryonic development in the Asian yellow pond turtle X.-P. Zhu (Wuhan, Guangzhou, China), C.-Q. Wei, W.-H. Zhao, H.-J. Du, Y.-L. Chen (Guangzhou, China) and J.-F. Gui (Wuhan, China)	243
Spatial distribution in a temperate coastal ecosystem of the wild stock of the farmed oyster <i>Crassostrea gigas</i> (Thunberg) B. Cognie (Nantes, France), J. Haure (Bouin, France) and L. Barillé (Nantes, France)	249
Stocking density practices of commercial UK rainbow trout farms B.P. North (Scotland, UK), T. Ellis (Dorset, UK), J.F. Turnbull (Scotland, UK), J. Davis (Midlothian, UK) and N.R. Bromage (Scotland, UK)	260
Development of a growth model for penaeid shrimp A.R. Franco, J.G. Ferreira and A.M. Nobre (Monte de Caparica, Portugal)	268
Growth and survival of post-larvae of sole (<i>Solea senegalensis</i>) in net cages at the bottom of earthen ponds M.A. de Castelo Branco, O. Moura (Lisbon, Portugal) and S. Gamito (Faro, Portugal)	278
Biological viability of producing white shrimp <i>Litopenaeus vannamei</i> in seawater floating cages M. Zarain-Herzberg (Sinaloa, México), A.I. Campa-Córdova (Baja California Sur, México) and R.O. Cavalli (Rio Grande, Brazil)	283
Effective UV dose and pressure shock for induction of meiotic gynogenesis in southern flounder (<i>Paralichthys lethostigma</i>) using black sea bass (<i>Centropristes striata</i>) sperm A.J. Morgan, R. Murashige (Raleigh, NC, USA), C.A. Woolridge (Wilmington, NC, USA), J. Adam Luckenbach (Raleigh, NC, USA), W.O. Watanabe (Wilmington, NC, USA), R.J. Borski, J. Godwin and H.V. Daniels (Raleigh, NC, USA)	290

Systems engineering for ornamental fish production in a recirculating aquaculture system I. Halachmi (Bet Dagan, Israel).....	300
A bioeconomic evaluation of a commercial scale recirculating finfish growout system — An Australian perspective P.N. De Jonno, G.L. Wines, P.L. Jones and R.O. Collins (Warrnambool, Victoria, Australia).....	315
A conceptual, stoichiometry-based model for single-sludge denitrification in recirculating aquaculture systems S. Klas (Haifa, Israel), N. Mozes (Eilat, Israel) and O. Lahav (Haifa, Israel).....	328
Development of single-sludge denitrification method for nitrate removal from RAS effluents: Lab-scale results vs. model prediction S. Klas (Haifa, Israel), N. Mozes (Eilat, Israel) and O. Lahav (Haifa, Israel).....	342
Growth of the diatom <i>Chaetoceros calcitrans</i> in sediment extracts from <i>Artemia franciscana</i> ponds at different concentrations of nitrogen and phosphorus C.M. Khoi, V.T. Guong (Cantho city, Vietnam) and R. Merckx (Heverlee, Belgium).....	354
Nutrition	
Improved growth and nutrient utilisation in Atlantic salmon (<i>Salmo salar</i>) fed diets containing a bacterial protein meal T.S. Aas (Sunnadalsøra, Norway), B. Grisdale-Helland, B.F. Terjesen and S.J. Helland (Sunnadalsøra, CoE, Norway).....	365
Evaluation of poultry by-product meal in commercial diets for hybrid striped bass (<i>Morone chrysops</i> ♀ × <i>M. saxatilis</i> ♂) in recirculated tank production S.D. Rawles, M. Riche (Stuttgart, AR, USA), T.G. Gaylord (Hagerman, Idaho, USA), J. Webb (Fort Pierce, Florida, USA), D.W. Freeman (Stuttgart, AR, USA) and M. Davis (Fort Pierce, Florida, USA).....	377
Physiology and Endocrinology	
Effect of pre- and post-mortem temperature on rigor in Atlantic salmon muscle as measured by four different techniques A. Kiessling (Matredal, Ås, Norway), L. Helge Stien (Bergen, Norway), Ø. Torslett, J. Suontama and E. Slind (Matredal, Norway).....	390
Post-thaw amendment of cryopreserved sperm for use in artificial insemination of a viviparous fish, the green swordtail <i>Xiphophorus helleri</i> Q. Dong, C. Huang (Baton Rouge, Louisiana, USA; Wenzhou, P.R. China) and T.R. Tiersch (Baton Rouge, Louisiana, USA).....	403
Investigation of marine bivalve morphology by in vivo MR imaging: First anatomical results of a promising technique S. Pouvreau (Argenton en Landunvez, France), M. Rambeau (Rennes cedex 2, France), J.C. Cochard and R. Robert (Argenton en Landunvez, France).....	415
Isolation of peptide hormones with pleiotropic activities in the freshwater crab, <i>Oziotelphusa senex senex</i> P.R. Reddy and P.S. Reddy (Tirupati, India).....	424
Effect of stocking density on growth, digestive enzyme activity and cortisol level in larvae and juveniles of Japanese flounder, <i>Paralichthys olivaceus</i> S. Bolasina, M. Tagawa, Y. Yamashita and M. Tanaka (Kyoto, Japan).....	432
Short Communication	
Coral nubbins as source material for coral biological research: A prospectus S. Shafir (Haifa, Rehovot, Israel), J. Van Rijn (Rehovot, Israel) and B. Rinkevich (Haifa, Israel).....	444
Contents of Aquaculture, Volume 259	449

Contents (continued)

No evidence for overdominance at the phosphoglucomutase-2 locus in Pacific oysters (<i>Crassostrea gigas</i>) from New Zealand	74
A.R. Wood and J.P.A. Gardner (Wellington, New Zealand)	
Effects of the "all-fish" growth hormone transgene expression on non-specific immune functions of common carp, <i>Cyprinus carpio</i> L.	81
W.-B. Wang (Hubei Province, Guangdong Province, P.R. China), Y.-P. Wang, W. Hu, A.-H. Li, T.-Z. Cai, Z.-Y. Zhu and J.-G. Wang (Hubei Province, P.R. China)	
Production of all-male stock by neofemale technology of the Thai strain of freshwater prawn, <i>Macrobrachium rosenbergii</i>	88
W. Rungsit, N. Paankhao and U. Na-Nakorn (Bangkok, Thailand)	
Genetic variability assessed by microsatellites in cultured populations of the Pacific oyster (<i>Crassostrea gigas</i>) in China	95
Q. Li, H. Yu and R. Yu (Qingdao, China)	
Genetic parameter estimates for growth-related traits in Oujiang color common carp (<i>Cyprinus carpio</i> var. <i>color</i>)	103
C.-h. Wang, S.-f. Li (Shanghai, China), S.-p. Xiang, J. Wang (Zhejiang, China), Z.-g. Liu (Shanghai, China), Z.-y. Pang, J.-p. Duan and Z.-b. Xu (Zhejiang, China)	
Evaluation of induced triploid shrimp <i>Penaeus (Fenneropenaeus) chinensis</i> cultured under laboratory conditions	108
J. Xiang, F. Li, C. Zhang, X. Zhang, K. Yu, L. Zhou and C. Wu (Qingdao, PR China)	
Evaluation of statistical models for genetic analysis of challenge test data on furunculosis resistance in Atlantic salmon (<i>Salmo salar</i>): Prediction of field survival	116
J. Ødegård, I. Olesen, B. Gjerde and G. Kiemetsdal (Ås, Norway)	
Effect of dietary restriction during juvenile development on adult performance of Pacific oysters (<i>Crassostrea gigas</i>)	124
S. Evans and C. Langdon (OR, USA)	
Heritability and genetic correlations of growth and survival in black tiger prawn <i>Penaeus monodon</i> reared in tanks	138
M. Kenway (Townsville, Qld, Australia), M. Macbeth (Brisbane, Qld, Australia), M. Salmon (Townsville, Qld, Australia), C. McPhee (Brisbane, Qld, Australia), J. Benzie (Sydney, NSW, Australia), K. Wilson (Townsville, Qld, Australia) and W. Knibb (Brisbane, Qld, Australia)	
Heritability estimates for growth in the tropical abalone <i>Haliotis asinina</i> using microsatellites to assign parentage	146
T. Lucas (Brisbane, Woorim QLD, Australia), M. Macbeth, S.M. Degnan (Brisbane QLD, Australia), W. Knibb (Woorim QLD, Australia) and B.M. Degnan (Brisbane QLD, Australia)	
Husbandry and Management	
An investigation into the occurrence of geosmin responsible for earthy-musty taints in UK farmed rainbow trout, <i>Oncorhynchus mykiss</i>	153
R.F. Robertson (Aberdeen, UK), A. Hammond, K. Jauncey (Stirling, UK), M.C.M. Beveridge (Perthshire, UK) and L.A. Lawton (Aberdeen, UK)	
The effects of monosex culture and stocking density on survival, growth and yield of redclaw crayfish (<i>Cherax quadricarinatus</i>) in earthen ponds	164
L.J. Rodgers, P.I. Saoud and D.B. Rouse (Auburn, AL, United States)	
Effects of locally-isolated micro-phytoplankton diets on growth and survival of sea scallop (<i>Placopecten magellanicus</i>) larvae	169
R. Gouda, E. Kenchington (Halifax, Dartmouth, Nova Scotia, Canada), B. Hatcher (Sydney, Nova Scotia, Canada) and B. Vercaemer (Dartmouth, Nova Scotia, Canada)	
Unequal division of food resources suggests feeding hierarchy of signal crayfish (<i>Pacifastacus leniusculus</i>) juveniles	181
T. Ahvenharju (Evo, Finland) and K. Ruuhonen (Turku, Finland)	
Larval rearing and weaning of thick lipped grey mullet (<i>Chelon labrosus</i>) in mesocosm with semi-extensive technology	190
I. Ben Khemis, D. Zouiten, R. Besbes and F. Karmoun (Monastir, Tunisia)	
Invasion of <i>Codium fragile</i> ssp. <i>tomentosoides</i> in northern Chile: A new threat for <i>Gracilaria</i> farming	202
P.E. Neill (Santiago, Chile), O. Alcalde (Chile), S. Faugeron (Santiago, Chile), S.A. Navarrete and J.A. Correa (Santiago, Chile)	
Growth, faecal production, nitrogenous excretion and energy budget of juvenile cobia (<i>Rachycentron canadum</i>) relative to feed type and ration level	211
L. Sun, H. Chen, L. Huang and Z. Wang (Guangdong, P.R. China)	
Food sources of the sergestid crustacean, <i>Acastes sibogae</i> , in shrimp ponds	222
F.E. Coman (Cleveland, Queensland, Australia), R.M. Connolly (Queensland, Australia), S.E. Bunn (Nathan Qld, Australia) and N.P. Preston (Cleveland, Australia)	

Contents (continued)

The growth and survival of western king prawns, <i>Penaeus latisulcatus</i> Kishinouye, in potassium-fortified inland saline water	234
D.I. Prangnell and R. Fotedar (Bentley, WA, Australia)	
Effects of incubation temperatures on embryonic development in the Asian yellow pond turtle X.-P. Zhu (Wuhan, Guangzhou, China), C.-Q. Wei, W.-H. Zhao, H.-J. Du, Y.-L. Chen (Guangzhou, China) and J.-F. Gui (Wuhan, China)	243
Spatial distribution in a temperate coastal ecosystem of the wild stock of the farmed oyster <i>Crassostrea gigas</i> (Thunberg)	
B. Cognie (Nantes, France), J. Haure (Bouin, France) and L. Barillé (Nantes, France)	249
Stocking density practices of commercial UK rainbow trout farms	
B.P. North (Scotland, UK), T. Ellis (Dorset, UK), J.F. Turnbull (Scotland, UK), J. Davis (Midlothian, UK) and N.R. Bromage (Scotland, UK)	260
Development of a growth model for penaeid shrimp	
A.R. Franco, J.G. Ferreira and A.M. Nobre (Monte de Caparica, Portugal)	268
Growth and survival of post-larvae of sole (<i>Solea senegalensis</i>) in net cages at the bottom of earthen ponds M.A. da Castelo Branco, O. Moura (Lisbon, Portugal) and S. Gamito (Faro, Portugal)	278
Biological viability of producing white shrimp <i>Litopenaeus vannamei</i> in seawater floating cages M. Zarain-Herzberg (Sinaloa, México), A.I. Campa-Córdova (Baja California Sur, México) and R.O. Cavalli (Rio Grande, Brazil)	283
Effective UV dose and pressure shock for induction of meiotic gynogenesis in southern flounder (<i>Paralichthys lethostigma</i>) using black sea bass (<i>Centropristes striata</i>) sperm	
A.J. Morgan, R. Murashige (Raleigh, NC, USA), C.A. Woolridge (Wilmington, NC, USA), J. Adam Luckenbach (Raleigh, NC, USA), W.O. Watanabe (Wilmington, NC, USA), R.J. Borski, J. Godwin and H.V. Daniels (Raleigh, NC, USA)	290
Systems engineering for ornamental fish production in a recirculating aquaculture system	
I. Halachmi (Bet Dagan, Israel)	300
A bioeconomic evaluation of a commercial scale recirculating finfish growout system — An Australian perspective	
P.N. De Ionno, G.L. Wines, P.L. Jones and R.O. Collins (Warrnambool, Victoria, Australia)	315
A conceptual, stoichiometry-based model for single-sludge denitrification in recirculating aquaculture systems S. Klas (Haifa, Israel), N. Mozes (Eilat, Israel) and O. Lahav (Haifa, Israel)	328
Development of a single-sludge denitrification method for nitrate removal from RAS effluents: Lab-scale results vs. model prediction	
S. Klas (Haifa, Israel), N. Mozes (Eilat, Israel) and O. Lahav (Haifa, Israel)	342
Growth of the diatom <i>Chaetoceros calcitrans</i> in sediment extracts from <i>Artemia franciscana</i> ponds at different concentrations of nitrogen and phosphorus	
C.M. Khoi, V.T. Guong (Cantho city, Vietnam) and R. Merckx (Heverlee, Belgium)	354
Nutrition	
Improved growth and nutrient utilisation in Atlantic salmon (<i>Salmo salar</i>) fed diets containing a bacterial protein meal	
T.S. Aas (Sunndalsøra, Norway), B. Grisdale-Helland, B.F. Terjesen and S.J. Helland (Sunndalsøra, CoE, Norway)	365
Evaluation of poultry by-product meal in commercial diets for hybrid striped bass (<i>Morone chrysops</i> ♀ × <i>M. saxatilis</i> ♂) in recirculated tank production	
S.D. Rawles, M. Riche (Stuttgart, AR, USA), T.G. Gaylord (Hagerman, Idaho, USA), J. Webb (Fort Pierce, Florida, USA), D.W. Freeman (Stuttgart, AR, USA) and M. Davis (Fort Pierce, Florida, USA)	377
Physiology and Endocrinology	
Effect of pre- and post-mortem temperature on rigor in Atlantic salmon muscle as measured by four different techniques	
A. Kiessling (Matredal, Ås, Norway), L. Helge Stien (Bergen, Norway), Ø. Torslett, J. Suontama and E. Slinde (Matredal, Norway)	390
Post-thaw amendment of cryopreserved sperm for use in artificial insemination of a viviparous fish, the green swordtail <i>Xiphophorus helleri</i>	
Q. Dong, C. Huang (Baton Rouge, Louisiana, USA; Wenzhou, P.R. China) and T.R. Tiersch (Baton Rouge, Louisiana, USA)	403
Investigation of marine bivalve morphology by in vivo MR imaging: First anatomical results of a promising technique	
S. Pouvreau (Argenton en Landunvez, France), M. Rambeau (Rennes cedex 2, France), J.C. Cochard and R. Robert (Argenton en Landunvez, France)	415

Contents (continued)

Isolation of peptide hormones with pleiotropic activities in the freshwater crab, <i>Oziotelphusa senex senex</i>	424
P.R. Reddy and P.S. Reddy (Tirupati, India)	
Effect of stocking density on growth, digestive enzyme activity and cortisol level in larvae and juveniles of Japanese flounder, <i>Paralichthys olivaceus</i>	432
S. Bolasina, M. Tagawa, Y. Yamashita and M. Tanaka (Kyoto, Japan)	
Short Communication	
Coral nubbins as source material for coral biological research: A prospectus	444
S. Shafir (Haifa, Rehovot, Israel), J. Van Rijn (Rehovot, Israel) and B. Rinkevich (Haifa, Israel)	
Contents of Aquaculture, Volume 259	449

